

Amendments to the Claims

The following listing of claims replaces all prior versions and listings of claims in the present application:

1. (Original) A simulation result displaying apparatus for a pneumatic device, said pneumatic device at least including a pneumatic cylinder, a solenoid valve, a speed controller, and pneumatic tubes for connecting therebetween, comprising:

means for inputting a piston area of a head-end chamber of said pneumatic cylinder, a piston area of a piston rod-end chamber of said pneumatic cylinder, and an effective area of a head-end tube passage of said pneumatic cylinder and an effective area of a rod-end tube passage of said pneumatic cylinder based on an effective area of said solenoid valve, an effective area during free flow and an effective area during controlled flow of said speed controller, and effective areas of said pneumatic tubes;

means for calculating by a simulation a stroke time of a piston from valve excitation of said solenoid valve for driving said piston of said pneumatic cylinder to arrival at an end position of said piston of said pneumatic cylinder and a velocity of said piston on said arrival at said end position of said piston for each of load rates of said pneumatic cylinder based on at least said piston area of said head-end chamber, said piston area of said piston rod-end chamber, said effective area of said head-end tube passage of said pneumatic cylinder, and said

effective area of said rod-end tube passage of said pneumatic cylinder inputted by said input means for each of a plurality of combinations of said solenoid valve, said speed controller, said pneumatic cylinder, and said tubes for connecting therebetween; and

means for displaying, in a superimposed manner on a display unit, said stroke time of said piston and said velocity of said piston determined by said calculating means for each of said load rates for each of said plurality of combinations based on a stroke of said piston.

2. (Original) The simulation result displaying apparatus for the pneumatic device according to claim 1, wherein said calculating means calculates a change of mass flow of air flowing into said head-end chamber of said pneumatic cylinder based on movement of said piston, a volume change of said head-end chamber based on said change of said mass flow, a pressure change of said head-end chamber based on said volume change, an acceleration of said piston from said pressure change, and said velocity and a displacement of said piston from said acceleration.

3. (Original) The simulation result displaying apparatus for the pneumatic device according to claim 1, wherein said calculating means calculates a change of mass flow of air flowing out of said piston rod-end chamber of said pneumatic cylinder based on movement of said piston, a volume change of said piston rod-end chamber based on said change of said mass flow, a

pressure change of said piston rod-end chamber based on said volume change, an acceleration of said piston from said pressure change, and said velocity and a displacement of said piston from said acceleration.

4. (Canceled).